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10/692,660

10/24/2003

Raymond W. McCollum

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EXAMINER

WEI, ZHENG

ART UNIT

PAPER NUMBER

2192

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/692,660

Applicant(s)

MCCOLLUM ET AL.

Examiner

Zheng Wei

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/5/04, 4/11/05, 1/10/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the application filed on 10/24/2003.
2. Claims 1-27 are pending and have been examined.

Oath/Declaration

3. The Office acknowledges receipt of a properly signed oath/declaration filed on April 04, 2004.

Priority

4. The priority date considered for this application is October 24, 2003.

Information Disclosure Statement

5. The information disclosure statements filed 05/05/2004, 04/11/2005 and 01/10/2006 have been placed in the application file and the information referred to therein has been considered.

Drawings

6. The drawings filed on October 24, 2003 are accepted by the Examiner.

Claim Objections

7. Claims 1, 6, 13-15, 20, 21 and 27 are objected to because of the following informalities:

Claims 1, 20 and 27:

“facilitate at least one of testing assertions, ..., **and** communicating results of dynamic tests to other components” should be changed to --“facilitate at least one of testing assertions, ..., **or** communicating results of dynamic tests to other components”— according to the specification description.

Claim 6:

“at least one of a variable, an object, **and** a constant” should be changed to --“at least one of a variable, an object, **or** a constant”—according to the specification description at page 9, lines 14-15.

Claim 13:

“passed by one of a value **and** by reference” should be changed to --“passed by one of a value **or** by reference”—according to the specification description at page 25, line 34.

Claims 14 and 15:

“using at least one of an infinite loop **and** an event-driven callback” should be changed to --“using at least one of an infinite loop **or** an event-driven callback”—according to the specification description at page 33, lines 19-20.

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Claim 21:

"performed by one of extending...; **and** hooking the rule" should be changed to --

"performed by one of extending...; **or** hooking the rule" according to the specification description at page 39, lines 24-31

Appropriate correction is required.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-19 and 20-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1:

Applicant claims a computer program product including a computer readable medium having computer readable program code embodied thereon for the authoring of rules. Although a claimed computer-readable medium encoded with a computer program is a computer element, it does not specify what exact the functionality the computer program can to be realized. Applicant also claims the computer program product comprising statement for composing a rule. However, computer program product claimed as statement (computer listings per se); i.e., the descriptions or statement (expressions of the programs), are not physical "things". They are neither computer components nor statutory processes, as they

are not "acts" being performed. Therefore claim 1 is descriptive material per se and hence nonstatutory.

Claims 2-17 and 19:

Claims 2-17 and 19 are dependent claims of claim 1. Therefore, these claims are also rejected according to the claim 1.

Claim 18:

Applicant claims a computer system according to claim 1. However, neither the claim 1 nor claim 18 itself recites any computer system hardware. Therefore, the computer system can be interpreted as merely software components, i.e., computer programs per se. Such claimed matter, which is descriptive material per se and hence nonstatutory.

Claim 20:

Applicant claims a computer program product including a computer readable medium having computer readable program code embodied thereon for providing a method of authoring rules for asynchronous processing. Although program code (descriptive material) is recorded on the computer-readable medium, it does not specify what exact the method the computer program can to be performed. Therefore claim 20 is only descriptive material per se and hence nonstatutory.

Claims 21-26:

Claims 21-26 depend on claim 20. Therefore, they are also rejected according to claim 20.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 3, 8, 9 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3:

The term "regular basis" in claim 3 is a relative term which renders the claim indefinite. The term "regular basis" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 8 and 9:

The terms "implicit task" and "explicit task" in claims 8 and 9 are relative terms which render the claim indefinite. The terms "implicit task" and "explicit task" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 17:

The term "substantially simultaneously" in claim 17 is a relative term which renders the claim indefinite. The term "substantially simultaneously" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-14, 17-21 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Bigus (Bigus et al., US 2004/0083454).

Claim 1:

Bigus discloses a computer program product including a computer readable medium having computer readable program code embodied thereon for the authoring of rules (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device"), the computer program product comprising statements for composing a rule such that the rule can be decomposed into a subset of instructions that are processed concurrently to facilitate at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, and communicating results of dynamic tests to other components (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see. Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines.").

Claim 2:

Bigus further discloses the product of claim 1, at least one of the statements facilitates activating the rule for processing (see for example, paragraph [0025],

“using-clause of the init() rule block”).

Claim 3:

Bigus also discloses the product of claim 1, at least one of the statements facilitates activating the rule according to least one of a regular basis and detection of an event (see for example, paragraph [0045], “Depending on the inference engine used by the rule block, the rules can be processed sequentially or selected to be fired based on priority, specificity, or some other criterion”).

Claim 4:

Bigus further discloses the product of claim 1, one or more of the statements facilitates performing a continuous polling loop (see for example, paragraph [0046], “A rule is a declarative statement or knowledge expression. Rule language statements are referred to as rules...and while and do-while iteration rules”).

Claim 5:

Bigus also discloses the product of claim 4, the polling loop is performed according to a polling interval such that the polling loop executes and then waits for the polling interval to expire before executing a next polling loop (see for example, paragraph [0073], “...provides a timer function, wherein the bean cycles

from a sleep mode to a wake-up mode every N milliseconds”).

Claim 6:

Bigus further the product of claim 4, the polling loop is facilitated according to a keyword that includes at least one of a variable, an object, and a constant (see for example, paragraph [0073], “...provides a timer function, wherein the bean cycles from a sleep mode to a wake-up mode every N milliseconds, where N is a variable.”).

Claim 7:

Bigus further discloses the product of claim 1, the rule executes concurrently with another rule (see for example, paragraph [0047], “Multiple rules can be grouped together into rule blocks, Each rule block can have an associated inference engine that interprets the rules in that block. This allows for mixing multiple inference techniques. The inference engines implement the control strategies that affect how the rules are interpreted.”).

Claim 8:

Bigus also discloses the product of claim 1, at least one of the statements facilitate creating at least one of an implicit task and an explicit task (see for example, paragraph [0074]-[0075] and example code in [0078]-[0080], “the ruleset bean is a bean that provides support for processing events, either

synchronously or asynchronously”)

Claim 9:

Bigus further discloses the product of claim 8, at least one of the statements facilitates explicit task declaration of an explicit task object for the explicit task, and use of a statement that launches concurrent execution of the rule (see for example, Figure 9 and related text, also see paragraph [0075]-[0076], “The ruleset author can declare rulesets of any valid rule language identifier and these are depicted as items 909 and 910.”).

Claim 10:

Bigus further discloses the product of claim 1, at least one of the statements facilitates creating a task using one of a startup attribute and a signaling attribute (see for example, paragraph [0025], “initializing each rule block and creating an instance of an inference engine specified in a using-clause of the init() rule block”).

Claim 11:

Bigus also disclose the product of claim 1, at least one of the statements facilitates allowing the rule to invoke another rule (see for example, paragraph [0045], “Rules can be written that invoke other rule blocks”).

Claim 12:

Bigus further discloses the product of claim 1, at least one of the statements facilitates separating rule logic data from rule configuration data using at least one parameter (see for example, paragraph [0068], "The design of the framework explicitly provides for this capability by separating the data from the inference or control modules.").

Claim 13:

Bigus also discloses the product of claim 12, the at least one parameter is passed by one of a value and by reference (see for example, paragraph [0045], "Rules can also call out to arbitrary Java methods to receive values and invoke actions.").

Claim 14:

Bigus also discloses the product of claim 1, the rule is an independent rule authored using at least one of an infinite loop and an event-driven callback (see for example, paragraphs [0073] –[0074], "bean cycles", "processTimerEvent() rule block" and "processEvent() rule block")

Claim 17:

Bigus further discloses the product of claim 1, at least one of the statements facilitates collecting at least two data items substantially simultaneously, when the at least two data items become available (see for example, Figure 6, step 602 and related text, "Process Input Variables").

Claim 18:

Bigus also discloses a computer system according to claim 1 (see for example, Figure 2A and related text, also see paragraph [0063], "a computer system 201").

Claim 19:

Bigus also discloses the product of claim 1, one or more of the statements facilitates at least one of automated rule instantiation based on XML, built-in polling without threading or concurrency considerations, and automated logging of rule instance information in alerts (see for example, paragraphs [0080]-[0081], "XML ruleset", "outputs", also see paragraphs [0073]-[0074], "output buffer").

Claim 20:

Bigus discloses a computer program product including a computer readable medium having computer readable program code embodied thereon (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program

storage device”), for providing a method of authoring rules for asynchronous processing (see for example, paragraph [0074], “for processing events, either synchronously or asynchronously”); the method comprising, composing a rule of one or more statements that facilitate decomposing the rule into a subset of instructions that are processed concurrently, the rules processed to perform at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, and communicating results of dynamic tests to other components. (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text “parsing and compilation of rulesets”, also see. Paragraph [0042], “A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines.”).

Claim 21:

Bigus further disclose the method of claim 20, further comprising extensioning of the rule with constructs without modifying the rule, the extensioning is performed by one of, extending the rule to allow an alternate test before allowing the rule to fail; constraining the rule to make the test more stringent; and hooking the rule (see for example, paragraph [0070], “Library statements allows the user to import public methods in specified classes as user-defined functions without needing to declare each method explicitly”).

Claim 27:

Bigus discloses a computer program product including a computer readable medium having computer readable program code embodied thereon (see for example, paragraph [0016], "a computer program product", [0062], "...be implemented in ...an application program tangibly embodied on a program storage device") for providing a method of authoring rules for asynchronous processing, the method comprising, composing a rule of one or more statements that facilitate decomposing the rule into a subset of instructions that are independently scheduled for execution representative of an infinite loop, the rules processed to perform at least one of testing assertions, enforcing constraints using runtime information, making inferences, performing correlation, and communicating results of dynamic tests to other components. (see for example, Figure 2B, elements 229-233 and related text, Figure 4, and related text "parsing and compilation of rulesets", also see. Paragraph [0042], "A collection of rule language rules is a collection of declarative and procedural statements that can be actively interpreted or processed by one or more inference engines.").

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bigus (Bigus et al., US 2004/0083454).

Claim 15:

Bigus discloses the product of claim 14, the event-driven callback facilitates asynchronous delivery of a data item (see for example, paragraph [0074], "processing events, either synchronously or asynchronously", also see paragraph [0075] "inputs{}"), but does not explicitly disclose the data item is from an URI-based source. However, it is well known in the computer art that URI can be classified as URL and URN. The URL can be configured and embedded in XML ruleset as described in Bigus's example at paragraphs [0080]-[0081], the definition of "xmlns:xsi='http://www.w3.org/2001/XMLSchema-instance'".

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to define data input in "inputs" namespace by using the URL to retrieve input data automatically without user input. One would have been motivated to do so to allow the ruleset bean to operate in an autonomous or fully-automatic mode as suggested by Bigus (see for example, paragraph [0073], "This processing mode allows the ruleset bean to operate in an autonomous or fully-automatic mode enabling the framework to be used in autonomic and real-time policy enforcement applications")

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16. Claims 16, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bigus (Bigus et al., US 2004/0083454) in view of Graf (Lars Oliver Graf, US 6212581)

Claim 16:

Bigus discloses the product of claim 1, but does not disclose the rule is subscribed to reveal events at one time. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses revealing events at same time (see for example, col.14, lines 54-65, "The events program defines an ordered list of records, each describing a type of event", "SYSTEMWatch AI-L will check for events whenever the checkEvent function is called"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to manage events list more efficient as suggested by Graf. (see for example, col.14, lines 54-65, "the next event to be executed is first on the list").

Claim 22:

Bigus discloses the method of claim 20, but does not disclose the method further comprising forwarding a log event to a supervisor in accordance with the one or more statements of the rule. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses forwarding an alert message from client to console to notify the

system administrator (see for example, col.50, lines 9-18, "alert notifications").

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to present problem notification to system administrator for automatic management purpose as suggested by Graf (see for example, Fig.9, Fig.10 steps 79, 83, "Display Alerts", also see col.3, Summary of the Invention, lines 17-18, "automatically manages")

Claim 23:

Bigus discloses the method of claim 20, but does not disclose the method further comprising forwarding a log event using a function in accordance with the one or more statements of the rule, the log event forwarded to a supervisor that deployed the rule from which the function is called. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses using a function to forward the log event (see for example, Fig.9, steps 77, 79 and related text, "Call execRules", "Call CheckAlert"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to present problem notification to system administrator for automatic management purpose as suggested by Graf (see for example, Fig.9, Fig.10 steps 79, 83, "Display Alerts",

also see col.3, Summary of the Invention, lines 17-18, "automatically manages")

Claim 24:

Bigus discloses the method of claim 20, but does not disclose the method further comprising forwarding an alert using a function in accordance with the one or more statements of the rule, the alert forwarded to a supervisor that deployed the rule from which the function is called. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses using a function to forward the log event to the supervisor as in claims 22 and 23 above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to present problem notification to system administrator for automatic management purpose as suggested by Graf (see for example, Fig.9, Fig.10 steps 79, 83, "Display Alerts", also see col.3, Summary of the Invention, lines 17-18, "automatically manages")

Claim 25:

Bigus discloses the method of claim 20, but does not disclose the method further comprising consolidating and reporting according to a predetermined time interval. However, Graf in the same analogous art of a method and system for

managing a group computer using rule-based expert system discloses the method comprising:

- consolidating a plurality of events (see for example, col.19, lines 37-61, "Unique List Check", "Duplicate Alert Check"); and
- reporting a consolidated event summary based on the consolidated events according to a predetermined time interval (see for example, Fig.9, steps 79, 80 and related text, "Display Alerts", "sleep 5 seconds")

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would have been motivated to do so to prevent a server problem from posting multiple identical alerts at different times as suggested by Graf (see for example, col.19, lines 46-47)

Claim 26:

Bigus discloses the method of claim 20, but does not disclose the method further comprising monitoring system hardware and software resources in accordance with the one or more statements of the rule. However, Graf in the same analogous art of a method and system for managing a group computer using rule-based expert system discloses monitoring the computer software and hardware (see for example, Fig.4-5, also see, col.4, lines 4-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Graf's method in Bigus's program product. One would

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have been motivated to do so to automatically gather computer information as suggested by Graf (see for example, col.3, lines 11-21)

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

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ZW



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SUPERVISORY PATENT EXAMINER